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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,090	06/14/2000	MIROSLAV CHMELIR	6272-0049-0P	4228

22850 7590 11/19/2003

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EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/19/2003

27

Please find below and/or attached an Office communication concerning this application or proceeding.

db27

Office Action Summary

Application No.

09/554,090

Applicant(s)

CHMELIR ET AL.

Examiner

Tatyana Zalukaeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-16 and 18-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16, 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on June 26, 2003 has been entered.

Claim Rejections - 35 USC § 112

2. Claim 24 and dependent claims 13-16, 18-23, 25-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While the specification does recite that the initial polymerization temperature can be within the range of 0-50°C, and that the maximum temperature can be controlled (see page 9, lines 1-5), it does not say anything about specific ranges of the maximum temperature, and while the Examples 6-

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35 on pages 10-15 recite that the maximum temperature of 102-104⁰C is reached (see page 15, line 2) these teachings provide nothing about the starting temperature not=r do they teach at all that the starting temperature may be different from the maximum temperature. Therefore, those skilled in the art would not be reasonably appraised on how to practice the embodiment recited in claim 24 without undue experimentation. .

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 13-16, 18-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (U.S. 4,954,562) in view of Chmelir (U.S. 4,929,711).

Before the rejection is discussed, it is noted that Applicants amended claim 24 to introduce the limitation " wherein said free-radical polymerization is started at temperatures of from 0 to 50°C and is performed in aqueous solution at a maximum temperature of no more than 102-104°C;..."

This reads on any temperature below 102 or 104°C.

Anderson discloses a method of making **water absorbing** crosslinked acrylate resins by aqueous polymerization of **(A) acrylic acid neutralized 70 to 100 mole percent for example with ammonia and/or caustic alkali and/or an amine**; with (B) acrylamide in a mole ratio of 70 to 100 mole percent (A) to 30:0 mole percent (B); (C) styrene, in an amount of 0% to 25% based on the weight of acrylic acid or acrylate; and (D) a water miscible or a water soluble polyvinyl monomer in the presence of (E) a metal oxide, such as titanium dioxide, in an amount of 0.001% to 5% based on the total weight of (A), (B), (C), (D) and (E), such that the amount of (D) is 0.001 to 0.6 weight percent based on the total weight of (A), (B), (C), (D) and (E) (abstract, col. 3, lines 27-39). Polymerization takes place in the presence of one or more polymerization initiators. (col. 4, lines 9, 10, col. 10, lines 9-40). Ammonium hydroxide and ammonium carbonate are used as neutralizing agents (col. 5, lines 23-26)

In accordance with Anderson's invention the residual monomer content can be achieved less than 100 ppm (col. 11, lines 5-11). The polymerization proceeds very fast and usually requires from 30 sec to about 10 minutes (col. 11, lines 35-38).

Therefore the limitations of claim 24 and dependent claims for providing acid monomer with comonomers partially or completely neutralizing the monomer with basic nitrogen containing compound, and free radical polymerizing such monomer(s), as well as basic conditions of the process are fulfilled. With regard to initial temperature of polymerization (presently introduced limitation), Anderson teaches that " In accordance with the method of the present invention, the aqueous mixed monomer and metal oxide mixture is heated and **thereafter subjected to polymerization** and crosslinking reactions with the addition of a polymerization initiator. Although the temperature of the aqueous mixed monomer and metal oxide mixture is not particularly limited since the polymerization of the monomers in solution is **initiated by the addition of the initiator, the temperature is usually about 50° C. to about 85° C.** (col. 9, lines 20-29). Thus, Anderson anticipates starting polymerization temperature by naming 50°C, as well as the temperature being not more than 102-104°C. Anderson further teaches that the polymerization per se is exothermic reaction, so that the reaction system is rapidly heated to about 100 to about 130° (col.11, lines 41-43). Thus by naming 100°C, Anderson once again anticipates the maximum temperature of polymerization as per instant claim 24.

The disclosure of Anderson differs from the instant claims in not disclosing **subsequent heating of a polymer at a temperature of 120 to 240°**.

However, **Anderson** provides a motivation to do so by emphasizing two factors:

- a) the major factor is a necessity to obtain polymers with low monomer content; and
- b) by describing an embodiment, that if further surface treatment is needed, the polymer is **dried after the completion of polymerization** (col. 12, lines 1-3).

Drying polymers after polymerization at elevated temperatures is conventioannly used in polymer chemistry for a variety of reasons, such as to get rid of unreacted monomers, remove the traces of solvent, etc.

Thus **Chmelir** discloses a method of preparing homopolymers or copolymers that are water-soluble or swell up in water and **have a low residual monomer content** by treating them with **an amine** compound. The homopolymer or copolymer in the swollen form and in the form of a gel or in the form of a solution is treated with a compound, such as for example ammonia, an ammonium salt, an alkylamine and/or one of their salts or a hydroxylamine and/or their salts, subsequent to polymerization the resulting polymer gel or polymer solution is **dried at an elevated temperature, which is 50-150°C** (see abstract and col.2, lines 37-38).

Since both Anderson and Chmelir intend to develop a process to obtain a polymer with **low residual monomer content**, and Anderson suggests embodiments with the elevated temperature, not particularly elucidating subsequent treatment of a polymer, one skilled in the art would have found it obvious to utilize a conventional

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drying step of Chmelir as discussed above in the process of Anderson after polymerization is completed in order to **further** reduce the residual monomer content with the reasonable expectation of success.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 13-16, 18-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,552,141. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant application and US'141 claims call for the process for producing the same polymers and copolymers, wherein the monomers are neutralized with substantially the same nitrogen based compounds, wherein the main steps are free radical polymerizing the monomer(s) mixture, and

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US'141 claims differ from the instant claims by not specifying the polymerization temperature. However, since the preferred embodiments disclosed in the body of US'141 call for the temperatures within the claimed range, a person skilled in the art would have those temperatures operable within the scope of claims of US'141 with the reasonable expectation of success.

Response to Arguments

9. Applicants argument with regard to claims 13-31 have been considered, but they are not persuasive.

Applicants attention is drawn to paper 26 page 7, wherein Applicants' argument resides in contention that "...claims require the initial polymerization temperature be from 0 to 50°C ..., in contrast Anderson starts at a higher temperature of 50-85°C...". From this arguments it is clearly seen that Applicants themselves recognize the **50°C** point as a common point of the instant claim 24 and of Anderson's teaching. As stated in MPEP 2131.03 a specific example or a data point is defined as either the end point of a range or a disclosed data point set forth in the reference anticipates the range. It has long been held that the disclosure in the prior art of any value within the claimed range is an anticipation of claimed range, ***Ex parte Lee*** 31 USPQ 2d 1106, 1106.

Applicants further argue that the polymerization of Anderson proceeds to temperatures up to 120-130°C, which is above the limit permitted by presently amended claim 24.

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This is not found persuasive for at least two reasons:

- a) Since Anderson teaches that the polymerization of the monomers in solution is **initiated by the addition of the initiator, the temperature is usually about 50° C. to about 85° C.** (col. 9, lines 20-29), he anticipates both starting polymerization temperature by naming 50°C, as well as the temperature **being not more** that 102-104°C. Anderson further teaches that the polymerization per se is exothermic reaction, so that the reaction system is rapidly heated to about **100 to about 130°** (col.11, lines 41-43). Thus by naming 100°C, Anderson once again anticipates the maximum temperature of polymerization as per instant claim 24.
- b) Applicants statement that “ Anderson teaches the polymerization temperatures of **up to 120-130°** assumes ALL temperatures below 120 operable within Anderson’s disclosure.

As such, the combination of references renders claims 13-24 prima facie obvious and properly rejected under 35 USC 103 (a).

10. Other prior art references cited in PTOL-892 show relevant prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, David Wu can be reached on (703) 308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tatyana Zelukaeva, Ph.D.
Primary Examiner
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A handwritten signature in black ink, appearing to read 'Zelukaeva', with a long, sweeping horizontal stroke extending to the right.

November 6, 2003